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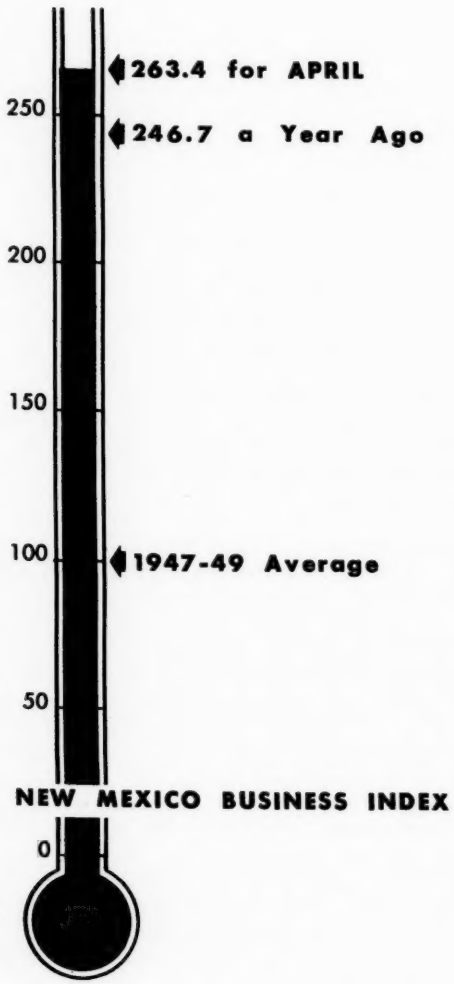
New Mexico BUSINESS



A contraseasonal dip in business activity in April brought the Index of Business Activity in New Mexico down to 2.3 per cent below its March figure. Contributing to this unseasonal dip were a sharp decline in the sales of service establishments, cutbacks in crude oil and natural gas production, lagging output of metallics and potash, and a decline in building permits from their stratospheric March heights.

At the same time, employment showed its first month-to-month increase for 1958, and April's unemployment dropped from March levels to a rate of just over 4 per cent of the labor force, in sharp contrast to the 7.5 per cent unemployment rate for the nation.

By comparison with 1957 April's performance was more encouraging. The Index of Business Activity, despite the drop from April, was 6.8 per cent above April 1957 and 5 per cent above the level which was to have been anticipated on the basis of the ten-year trend line.

Wage employment continued to show gains over year-earlier figures, with the biggest percentage increases occurring in finance, in construction, and in manufacturing. The

(Continued on Page 11)

"Copper Chronicle"--Last of Two Articles

COPPER CHRONICLE:
New Mexico Copper Today and Tomorrow

By Margaret Meaders

(This is the second of two consecutive articles on New Mexico copper.)

Copper was perhaps the chief means whereby man took his first step toward eventual "civilization," moving from the Stone Age into the Bronze Age. Copper was used simply as a malleable stone, requiring no metallurgical processing, at least 20,000 years ago. People of the Aegean, the Near East, and ancient Egypt adorned themselves with copper ornaments and fashioned for themselves simple copper tools and vessels as long ago as 3,500 B.C. Their descendants were using bronze as long ago as 2,200 B.C.

Whether in New Mexico the Sandia and the Folsom People ferreted out the secret of the deposits at the Kneeling Nun Mountain may never be known. Certainly, they did not discover the miracle of creating bronze. The early Pueblo People, however, used copper, as evidenced by the copper hawk-bells and vessels reported by early Spanish explorers.

Copper occurs in great abundance throughout the world. Almost every country possesses deposits. It can deservedly be given credit for "the age of electricity," for no other metal or substance except silver has such high electrical conductivity. Copper is also strongly corrosion-resistant, exceptionally ductile, and unusually heat-conductive. In addition, it possesses valuable alloy properties: combined with zinc it forms brass; combined with tin it forms bronze; combined with such things as beryllium, aluminum, nickel, silicon, and lead, it forms other exceedingly valuable alloys. Furthermore, it has an original-use cycle of about 40 years, after which approximately 60 per cent can be recovered for further use.

Out of copper are made such items as transmission wires and parts of dynamos, motors, switchboards, cooling fins and water heaters, etc. Every tank we made during World War II required 800 pounds of copper; every large bomber required a ton; every battleship required 1,000 tons. Every minute of action by a 50-plane squadron used up ammunition requiring 7 tons. Few substances have such consistent value, whether men be beating plough shares into swords or swords into pruning hooks.

WORLD STRUCTURE OF THE INDUSTRY

Copper long ago developed into a fullfledged, world-wide industry made up of five primary segments: mining, smelting, refining, fabricating, marketing. In 1950 at least 18 countries produced as much as 10,000 tons of recoverable copper, while 18 others mined smaller but still appreciable amounts. However, only 12 districts, each containing at least 3 million tons of copper metal, are believed to hold 85 per cent of the world's copper resources: British-owned "Mine Series" in the Belgian Congo, Anaconda's Butte District in Montana, Kennecott's Braden in Chile and Bingham in Utah, the Keweenaw District in Michigan owned by the Copper Range Company and Calumet and Hecla Consolidated Copper Company, Phelps Dodge's Morenci in Arizona, Canadian-owned Sudbury in Canada, San Manuel in Arizona owned by Magma Copper Company-Newmont Mining Company, and state-owned Kazakhstan and the Urals Region in Russia.

The world produced recoverable copper during the 1949-53 period at the rate of some 2.8 million tons a year, an increase over the 1927-29 period of about 900,000 tons, with the United States supplying a third, Chile about 14 per cent, and Northern Rhodesia about 12 (see Table I). During World War II world production averaged better than 2.9 million tons annually. In 1956 the total reached 3,750,000 tons. Africa has led the planet in significant gains for the last 32 years, largely because of rapid development in Northern Rhodesia. Following the last war, the European copper industry made an amazingly quick recovery and soon surpassed its prewar production rates. This renewed life was sparked chiefly by the tremendous increase in Russian mining and by the diligent recovery of copper scrap in Germany.

The copper world's smelter production in 1953 of nearly 3 million tons is thought to have represented between 65 and 70 per cent of its total smelter capacity, on which no accurate figures are available. Smelter production in 1956 was close to 4 million tons. The globe's refining capacity in 1950 was 4.4 million tons. In 1953

total primary refinery production approached 1.3 million tons, with the U.S. possessing the largest refining facilities--for some 1.8 million tons annually. By 1956 that capacity was even closer to 2 million. Data on smelter and refinery production by companies are not available.

Figures for the 1941-50 decade show a 64 per cent increase over the world's annual average consumption during 1925-29, a high rate of expansion. In 1953 total consumption of new copper came close to 1.5 million tons. The United States consumes nearly half. As shown in Table I, seven countries use somewhat more than 85 per cent of the total consumption.

THE U.S. COPPER INDUSTRY

In this country copper ranks first in value among nonferrous metals and second only to iron among all metals in total production and total value. In 1950 we turned out 96.8 million tons of steel, 1.5 million tons of copper, and nearly 1 million tons each of lead, zinc, and aluminum. During the last war we did somewhat better in copper, lead, and aluminum. In 1953 the value of the 1,047,810 tons of copper we produced at primary refineries (from domestic, foreign, and secondary sources) was $851 million, that of lead was $124 million, that of zinc was $210 million, that of aluminum was $494 million. In 1956 our total primary-refinery production rose to 1,676,450 tons--1,442,633 from primary materials and 233,817 from scrap.

Thirty years ago we exported an average of 32 per cent of our annual distribution, but by 1950 we had reduced such exports to 10 per cent. By 1956 exports were up a trifle in volume but down in the percentage of total copper production. Actually, the United States has become increasingly dependent upon imports during the last decade and a half. Most of those imports have come from properties owned by American investors in Chile, Mexico, and Peru and from Canadian properties. Also dependent upon imports are the United Kingdom and France and to a somewhat lesser degree Germany and Japan. U.S. imports of refined copper in 1956 totaled 191,745 tons--11.4 per cent as much as we refined here and 12.6 of our total consumption of refined copper.

During the 1941-50 period the U.S. consumed about 1.5 million tons of copper annually, our domestic use having increased 64 per cent since 1929. During the 1953-56 period we used some 1.4 million tons a year, with the '56 consumption reaching the 1941-50 average. We have for many years been the largest producer and the largest consumer in the world, producing about a third of all copper and consuming nearly half.

Ninety-five per cent of our consumption is by wire and brass mills, depending upon whether we are at war or enjoying comparative peace. During peaceful times most of our copper goes to wire mills; during war, to brass mills. The automobile and construction industries are second and third in consumption during peace, using about 10 per cent each.

Some 200 American firms were producing and selling copper just before the current copper depression. The industry is, however, really one of a few big companies, which possess mines, smelters, refineries, fabricating subsidiaries, and selling agents. Most of the mines and the smelters are in the western United States, for that is where the big deposits are. The refineries, on the other hand, are largely situated on the Atlantic Seaboard close to cheap power, big markets, and ocean transportation.

U.S. Mines

The three most important U.S. mining interests are Kennecott Copper Corporation (world's largest), producing about 40 per cent of the total U.S. recoverable copper annually, Phelps Dodge Corporation, accounting for about 30 per cent, and Anaconda Copper Mining Company, producing about 8 per cent. Most of our 300 (usually) active copper

I. COPPER PRODUCTION AND CONSUMPTION AMONG IMPORTANT NATIONS
Mine and Smelter Production 1950 and 1956
Consumption 1950

Country	Mine Production				Smelter Production				Consumption	
	Quantity		Per Cent of World Total		Quantity		Per Cent of World Total		Quantity	Per Cent of World Total
	1950	1956	1950	1956	1950	1956	1950	1956	1950	
World Total	2,770	3,750	100.0	100.0	2,915	3,955	100.0	100.0	2,980	100.0
U. S.	909	1,106	32.8	29.5	1,009	1,231	34.6	31.1	1,372	46.0
Chile	400	540	14.4	14.4	381	506	13.1	12.8	21	0.7
Northern Rhodesia	328	445	11.8	11.9	308	430	10.6	10.9	(a)	--
Canada	264	356	9.5	9.5	238	331	8.2	8.4	105	3.5
U.S.S.R.	249	416	9.0	11.1	249	416	8.5	10.5	243	8.2
Belgian Congo	194	276	7.0	7.4	194	276	6.7	7.0	(a)	--
Japan	44	85	1.6	2.3	41	102	1.4	2.6	115	3.9
United Kingdom	--	--	--	--	--	--	--	--	374	12.6
Germany	1	26	--	0.7	223	309	7.6	7.8	238	8.0
France	--	--	--	--	--	--	--	--	127	4.3

(a) Data not available, but not large
Source: U. S. Bureau of Mines

mines are small, with 25 producing close to 98 per cent of all domestic output--five of them alone accounting for 67 per cent and the top 10 accounting for 85 per cent. The first five have held their positions consistently for many years, although occasionally the last two swap places: Kennecott's Utah Copper in the West Mountain (Bingham) District in Utah, the Phelps Dodge Morenci in the Copper Mountain District and the New Cornelia in the Ajo District in Arizona, Kennecott's Chino in the Central District in New Mexico, and Anaconda's Butte Mines in the Summit Valley District in Montana.

Total 1956 mine production by the six major copper-producing states was as follows: Arizona, 505,908 short tons; Utah, 250,604; Montana, 96,426; Nevada, 82,883,; New Mexico, 74,345; Michigan, 61,526. Total U.S. production was 1,106,215 tons. The output that year by the 13 major copper districts, which ordinarily produce around 95 per cent of our total, included these amounts: 249,417 tons from West Mountain, 127,350 tons from Copper Mountain, 96,292 from Summit Valley, 86,947 from Globe-Miami in Arizona, 72,080 from Warren (Bisbee) in Arizona, 71,216 from Central, 66,432 from Ajo, 61,526 from Lake Superior in Michigan, 53,518 from Mineral Creek (Ray) in Arizona, 50,130 from Robinson (Ely) in Nevada, 39,078 from Old Hat in Arizona, 31,216 from Yerington in Nevada, and 23,891 from Pioneer (Superior) in Arizona.

U.S. copper mining has some advantage over most of that elsewhere: most of our big mines are low-cost open-pit operations. For instance, in 1956 73 per cent of our copper and 78 per cent of our ore came from such huge, comparatively low-cost mines, which contrast sharply with expensive underground operations in most of the rest of the world. However, U.S. ore is generally of low grade, and open-pit deposits become increasingly less profitable because of steadily rising adverse ratios of waste rock to be moved in order to uncover the ore. Copper experts have estimated that some American open-pit mines, at 1950 production rates, will last only four or five years longer, some perhaps 10 or 15, but that those still being operated by 1980 will be exceptions. Most big U.S. producers can, however, **also count on an additional 8-to-12-year supply of ore from new areas and old mines. Another bright aspect of this somewhat gloomy situation is the fact that some U.S. operations can go underground.**

U.S. Smelters and Refineries

U.S. smelters have an annual capacity of 9 million tons of charge. In 1956 primary smelters turned out (from all sources) 1.3 million tons of copper. These smelters are largely controlled by four companies (accounting for around 92 per cent of total U.S. capacity): American Smelting and Refining Company, 34 per cent; Phelps Dodge, 32 per cent; Anaconda, 16 per cent; and Kennecott, 10 (1953 figures). Production by individual smelters is not revealed.

The nation's annual copper-refining capacity is around 2 million tons, close to 90 per cent of that being for electrolytic copper and the remainder for fire-refined. In 1956 total production of primary and secondary copper was 1.7 million tons. Again, four companies dominate the picture, controlling approximately 82 per cent of capacity: AS&R, 26 per cent; Phelps Dodge, 21; Anaconda, 21; Kennecott, 14. As in the case of smelter production, refinery production by individual states, companies, and smelters is withheld.

Customers and Sales Agents

The most important buyers of primary copper are the fabricators, who turn copper into wire, rods, extruded and rolled shapes, which, in turn, become raw materials for numerous other industries. About 30 major U.S. fabricators handle the bulk of all new copper. Big electrical concerns take most of the raw copper. The chief producers own the most important fabricators, starting with Kennecott's Chase Brass & Copper Company and Wire & Cable Company and including Anaconda's two fabricating outfits American Brass Company and Anaconda Wire & Cable Company, the Phelps Dodge Products Division, and two owned by AS&R--Revere Copper & Brass Company and General Cable Company. There are about a dozen important independent fabricators.

Most U.S. copper is sold through the producers' own agents (subsidiary companies or affiliated organizations), on the basis of 90-day delivery from a refinery.

Reserves

Ninety-five per cent of all U.S. reserves are concentrated in 13 districts--among them, New Mexico's Central. When the number is upped to the 18 districts accounting for 98 per cent, New Mexico's Tyrone is included.

THE NEW MEXICO COPPER INDUSTRY

More than 90 per cent of all copper produced so far in New Mexico has come from Grant County, with the great proportion of that output having been contributed by the Chino Mine of Kennecott--the old Santa Rita del Cobre on the western slopes of the Kneeling Nun Mountain. Next in importance has been Hidalgo copper, with the Banner Mining Company the major producer, turning out approximately 3 per cent of the State's copper.

II. ANNUAL COPPER PRODUCTION AND COMPARISON OF VALUE OF MINERAL PRODUCTION AND COPPER PRODUCTION 1954-57

Year	Production (short tons)	Value of Copper*	Value of All Mineral Production*	Per Cent of All Production
1953	72,497	$41,602,000	$140,150,000	29.7
1954	60,558	35,729,000	173,327,000	20.6
1955	66,417	47,547,000	208,421,000	22.8
1956	74,345	61,567,627	155,974,038	39.6
1957	65,537	48,642,380	164,297,494	29.6

* Except oil and gas and uranium
Source: NEW MEXICO BUSINESS

For a while during this decade operations were initiated or reactivated on other deposits in various parts of New Mexico--McFarland and Hullinger in the Silver City area, the George Baker Mining Company east of Cuba, U.S. Smelting, Refining, and Mining Company and the Tejano Mining Company also in Grant, etc.--all of them spurred on by the unaccountably high price paid for copper. However, the combined production of all other operations was negligible in comparison with Chino's. As this article is written, all have closed except Chino.

All in all, this State has produced an estimated 2,109,702 short tons of copper valued at around $815.6 million. So short a while ago as 1956, New Mexico copper broke all previous production records, coming close to 75,000 tons valued at $61,567,627 (see Table II) and accounting for nearly 40 per cent of all mineral production in the State. That year copper was mined in Grant, Guadalupe, Hidalgo, Rio Arriba, Sandoval, Santa Fe, and Taos.

Contributions by the 11 counties which have produced as much as 100 tons run something like this: Grant, 1,965,189; Hidalgo, 72,357; Santa Fe, 7,622; Guadalupe, 6,401; Socorro, 5,649; Otero, 3,269; Dona Ana, 1,378; Catron, 485; Sierra, 435; Lincoln, 222; and Colfax, 112. Central District has been spectacularly the first in recorded production, having for many years supplied approximately 7 per cent of the annual U.S. production and around 90 per cent of all New Mexico production. The Lordsburg District, location of the Banner workings, comes next. Since 1944 that district has produced at least 21,500 tons, 30 per cent of all Hidalgo output since its first year of record.

New Mexico Mines

At one time or another during 1956, the best copper year, close to 30 copper mines in 12 counties were operating in New Mexico. Among the Grant outfits producing copper (or at least maintaining their properties and reporting employees to the state inspector of mines) were these: Tejano Mining Company at its Austin-Amazon mine, employing 20 workers; U.S. Smelting, Refining, and Mining Company at its Bullfrog Concentrator mine, employing from 14 to 38 persons; Kennecott at Chino and Hurley, with 1,179 at the mine, 1,239 in the mill, and 63 others; McFarland and Hullinger at their Continental B mine with from 26 to 45 employees; Phelps Dodge at its Copper and Racket with four employees; Charles M. Russell at the Joy mine with four and the Pocahontas with three, both at Tyrone; and Zuniga Mines, Inc., at its Zuniga mine with four.

In Guadalupe was the Drusan Mining Company with 11 men at the Stauber. In Hidalgo were the Banner Mining Company with 94 to 97 employees at the famous old Miser's Chest, Brannan and Fuller with 18 at the Henry Clay, Hawkins, Kelley and Butterworth with four at the Napane claims, and Werner Lake Nickel Mines, Ltd., of Canada, carrying on extensive drilling programs in the Henry Clay, the Atwood, the Waldo, and the Anita, but reporting only 18 employees, all at the Henry Clay.

In Rio Arriba George M. Baker Company reported six workers at the Eureka-Baker; Morton & Powell reported six at the Eureka Group of claims. In San Miguel Vogel Uranium Mining and Exploration reported four workers at the Mikie V. In Santa Fe these copper producers were apparently operating some time during the year: Tom B. Scartaccini with three employees at the Carnahan mine and four at the Spanish mine; Kindom Uranium Copper with six workers at the Kindom mine; Mercury Uranium and Oil Company with seven employees at the famous old San Pedro; and the Onega Corporation, which was developing the Elena Maria but did not get into production.

In Socorro, with four employees at each mine: Clarence Barrett at the Azurite Copper mine, Beacon Exploration and Development Company at the Buckeye, and W.R.&W.L. Dobson Company at the Nit. For a while that year the old diggings in the Scholle District in Torrance were worked by 33 employees of the Meador Corporation. In Taos the Taos Uranium Company erected a mill and leaching plants and for a short time worked in the Twining District (Arroyo Hondo). The most important of all these mines were given historical treatment in the first of these two copper articles (see "The Story of New Mexico 'Red Gold'" in the May NEW MEXICO BUSINESS), which will not be repeated here.

New Mexico Processing Plants

Very little copper processing has taken place in New Mexico aside from milling. Kennecott has a concentrating mill and an 84,000-ton (annual capacity) smelter and until May 2 operated a fire refinery at Hurley. There have been flotation mills (not always exclusively copper mills) such as that at the Bonney mines in Hidalgo, that at the San Pedro in Santa Fe, and that at the East

III. VALUE OF METALS PRODUCTION IN NEW MEXICO FOR THE LAST FOUR FISCAL YEARS

Metal	1953-54	1954-55	1955-56	1956-57
Bastnasite	$ 4,686	$ 9,420	$ ---	$ 5,500
Beryl	34,944	76,485	37,000	16,000
Columbium	7,500	6,410	450	---
COPPER	37,865,307	43,714,109	61,567,627	48,642,380
Gold	114,510	48,695	53,257	79,066
Iron	2,450	56,250	34,252	20,205
Iron-Manganese	32,800	112,000	149,600	148,236
Lead	456,966	435,894	1,905,370	2,205,101
Manganese	1,113,568	2,955,936	3,677,464	2,714,040
Molybdenum	787,565	1,202,093	1,040,421	958,779
Selenium	7,451	728	10,983	1,761
Silver	122,303	123,525	230,278	231,294
Tungsten	---	335	---	---
Uranium	3,019,465	4,680,906	15,349,376	28,364,383
Vanadium	78,401	71,824	67,377	56,959
Zinc	817,993	1,257,366	11,454,905	13,772,104
Totals	$44,465,807	$54,751,976	$95,578,360	$97,215,808
Per Cent of Total Copper Represented	85.2	79.8	64.4	50.0

Source: Annual Reports of the New Mexico State Inspector of Mines

Camp group in the Steeple Rock District in Grant. But smelting and refining have been confined to that at Hurley. No electrolytic refining takes place in this State. The AS&R smelter in El Paso and the custom flotation mill at Deming have handled most ores not produced at Chino.

Since only one of the "big" U.S. copper interests conducts in New Mexico really substantial operations (Phelps Dodge workings at the Copper and Racket have been comparatively insignificant) with a record of long and important production, detailed consideration of the setup at Santa Rita and Hurley will round out the picture of copper operations in the Sunshine State.

Kennecott in New Mexico

The history and production record of the Santa Rita properties were given in detail in the previous article and will not be repeated here. The Santa Rita ore--from which comes copper with molybdenite as a by-product--is probably the lowest grade being mined in the world today. The fact that the mine is a low-cost open-pit mine has made possible efficient competition with operations handling richer ores. The present weak market, however, has put a definite strain upon even the least expensive operations; and Chino is currently suffering.

The Chino product has been, until this spring, both fire-refined copper and blister. The former was a final product of the Hurley fire refinery and went straight to customers who fabricated, cast, or made it into brass. However, the refinery has now been closed because of the drop in demand for fire-refined copper. The blister is shipped East for refining into electrolytic copper. For many years much of Kennecott's smelting and electrolytic refining have been handled by AS&R. However, beginning at mid-1960, their refining commitments to AS&R will be substantially reduced and by 1966 will end entirely. Kennecott plans an eastern refinery with an initial capacity of 16,000 tons a month. At least a portion of the Chino blister will go to that new $30-million plant, which will furnish electrolytic copper for both domestic and European markets. Kennecott also recently completed a deal for the biggest copper smelter in the world, that belonging to AS&R at Garfield, Utah. Kennecott will take over next January.

During 1956, 7.9 million net tons of ore were mined and milled at Chino, producing 69,629 net tons of copper. Last year, 7.3 million tons were mined and milled and 63,454 tons of copper produced. Both years, Chino production ranked next to Utah Copper's among Kennecott's domestic mines.

Significance of Copper in the State

In the 1953-57 period the value of copper production in New Mexico accounted on an average for 28 per cent of that of all mineral production, except oil, gas, and uranium. In 1954 the percentage dropped to 20.6 per cent; in 1956 it rose to 39.6 per cent. During the last four fiscal years, copper production has accounted for these approximate percentages of the total valuation of all metals produced in the State: 1953-54, 85 per cent; 1954-55, 80; 1955-56, 64; 1956-57, 50. (See Table III.)

Table IV presents additional comparisons of the size and significance of copper mining within the larger areas of total mining and of metals mining. Further analysis of Table IV supplies these facts:

1. In 1955, 58.4 per cent of the insured metals-mining employees in the State worked in mines or mills producing copper and received 63 per cent of all metals wages.

2. In 1956 copper miners represented 43 per cent of all metals miners and received 41 per cent of the wages.
3. In 1957 the copper percentages were 46.8 of the total mining employment and 46.3 per cent of total mining wages.

When such covered-employment data are assembled for the State's two most important copper counties Grant and Hidalgo, a more intimate picture is drawn of the tremendous influence copper exerts on those two counties. In Grant the year 1956 looked something like this (all figures are for "covered"--insured--employment):

Average total employment	4,916
Average mining employment	3,003 (61% of total)
Average metals employment	2,998 (61% of total)
Estimated copper employment (Based on reports of the State Inspector of Mines)	2,570 (52% of total)
Total wages	$20,446,817
Total mining wages	14,259,612 (69.7% of total)
Total metals wages	14,246,463 (69.6% of total)

In Hidalgo county the 1956 picture was this one:

Average total employment	708
Average mining employment	156 (22% of total)
Average metals employment	157 (22% of total)
Estimated copper employment (Same basis as Grant's)	116 (16% of total)
Total wages	$2,396,875
Total mining wages	795,117 (33% of total)
Total metals wages	795,117 (33% of total)

Obviously, figures for Grant County are largely representative of the role Kennecott plays there. To underscore that role, such figures as these should be considered: the January 1958 subsistence (retail) sales in Grant were 33 per cent under those in January 1957, undoubtedly a reflection of the current copper depression. Sales by furniture and appliance dealers were down a huge 52 per cent, and sales by manufacturers and processors were off more than 73 per cent. (In Hidalgo, sales by amusement and recreational places were off nearly 67 per cent, sales of services were down almost 19, sales by furniture and appliance dealers were off 83, and those by manufacturers and processors were off nearly 46.) The weakened lead-zinc and manganese industries also contributed to these decreases.

NEW MEXICO COPPER, 1958

For many months copper producers around the world have been wistfully remembering the halcyon days from April 1955 through January 1957 when copper prices ranged from 35¢ a pound to a 92-year high of 46¢ and when production broke records right and left. New Mexico's 1956 copper tonnage of 72,800 tons was valued at $61 million, putting us in fifth place among U. S. copper states.

The price of copper was almost unbelievable, even by copper men themselves, who attributed the skylarking prices to many things. As James Boyd, Kennecott vice president of exploration, saw it, six factors were responsible: (1) curtailed production in the face of surpluses expected in 1954 but failing to materialize; (2) U. S. and Chilean strikes; (3) Northern Rhodesia labor problems; (4) increased European consumption; (5) a U. S. stockpile purchase from Chile of 100,000 tons of copper; and (6) replacement of consumer inventories.

Coming Events Cast Shadows

But even before the fantastic 46¢-a-pound, record-smashing price effective from February to July of '56, many wise and experienced copper experts were feeling cold winds on the backs of their necks and were issuing warnings. As early as May 1955 Endicott R. Lovell, Calumet and

IV. COMPARISON OF TOTAL NEW MEXICO MINING, METALS MINING, AND COPPER MINING
Average Units, Employment, Weekly Earnings; Total Wages; Per Cent of Total Mining Data Represented by Metals Mining Data and Copper Mining Data
1955, 1956, 1957 (1st Three Quarters)

		Average Number of Employers	Per Cent of Total	Average Covered Employment	Per Cent of Total	Total Wages	Per Cent of Total	Average Weekly Earnings
1955:								
	All	714	100.0	14,762	100.0	$71,960,066	100.0	$ 93.74
	Metals	129	18.1	3,876	26.3	17,420,317	24.2	86.43
	Copper	14	2.0	2,264	15.3	10,978,047	15.3	93.25
1956:								
	All	738	100.0	16,637	100.0	84,821,377	100.0	98.04
	Metals	135	18.3	4,710	28.3	22,835,260	26.9	93.24
	Copper[a]	8	1.1	2,029	12.2	9,381,103	11.1	88.91
1957:								
	All	772	100.0	17,680	100.0	70,217,431	100.0	101.84
	Metals	133	17.2	4,821	27.3	18,384,722	26.2	97.68
	Copper	16	2.1	2,258	12.8	8,509,296	12.1	96.63

[a] All 1956 copper figures were affected by a strike at Chino in July and August.
Source: New Mexico Employment Security Commission

Hecla president, voiced alarm that even 36¢ copper would turn customers away and endanger the industry.

"Conditions in the copper market are unprecedented," he said. "Drastic shortages of copper have been caused by strikes, government stockpiling policies, and boom conditions in Western Europe. Moreover, large shipments. . . have gone beyond the Iron Curtain, further aggravating the shortage in the Free World. . . .

"Whether or not the 36¢ price will hold throughout the year is problematical. This high level unquestionably will stimulate the use of substitutes and . . . harm our industry."

In October of that year the price was 43¢; and Western Electric was pointing out that copper was selling at a price 258 per cent above that in January 1946, while aluminum was up only 63 per cent. In the fall the International Council of Non-Ferrous Metals met in Paris to discuss the high price of copper and talk about replacing it with materials like aluminum and plastics.

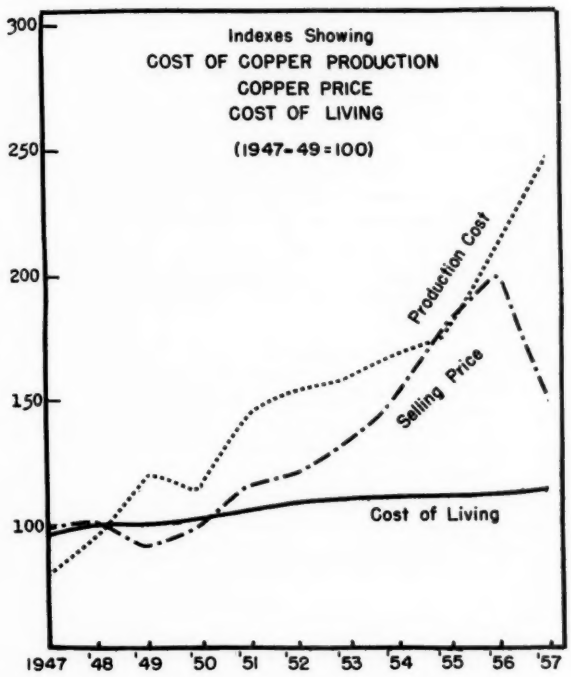
By February of 1956 the price was close to 44¢, and the Engineering and Mining Journal Markets said:

"The higher prices will affect the whole. . . industry, here and abroad. . . . Already, copper prices have lost any connection with copper costs."

Apparently, the copper world--with its finger on its own pulse--had accurately detected an unhealthy and feverish condition that before many months began to develop into an unmistakable case of third-degree doldrums. Within a few months the price of copper started a slow retreat; and, although production held up quite well even when the price tobogganed to its lowest point since February of '53, the time loomed when output would have to succumb to price-pressure resulting from decreasing consumption.

In New Mexico that fateful month was October 1957, although production began a gentle decline in July. October's yield was less than 45 per cent of the postwar monthly record of 7,349 tons mined in January 1956. The slump from September 1957 was 36 per cent; that from the 1957 high of 6,217 tons in January was 47 per cent.

When the price first began to wobble, many producers felt that they could not--and would not--sell below 36¢ delivered. In the spring of '57, with the price hovering between 31¢ and 32¢, Roy H. Glover, Anaconda chairman, said that at least 23 per cent of all U. S. copper costs more than 29¢ a pound to produce. About 70 per cent, he said, costs a minimum of 25¢. At that time the industry expected copper demand to increase as steel capacity expanded and as fabricators' copper stocks, deemed dangerously low, dwindled further. A substantial increase in demand for durable goods was also anticipated, which would automatically constitute a shot-in-the-arm for copper demand.



Source: Chinorama, November, 1957, p.1

But steel production soon began to droop visibly, and the demand for durable goods grew weaker rather than stronger; so copper's hopes not only weren't realized, they were given a stiff setback. Consumption actually dropped faster than production, even with small mines closing and big operators curtailing activities. For example, in September national mine production dipped 2 per cent, while the consumption of refined copper slumped 6.

Copper Cutbacks

The result has been the forcing out of production of small outfits across the nation and steady curtailment by major companies. In New Mexico McFarland and Hullinger's operations became an early casualty, as did those of the George Baker Mining Company and Banner. Soon there was only Kennecott left.

In December 1957 that company announced a 12 per cent production cut at Chino and its Utah and Nevada mines, a drop of 3,800 tons a month, through a change from a seven- to a six-day week. By early summer the Kennecott week was down to four days.

New Mexico copper mined last year was valued at $23.9 million less than the 1956 production, a decrease of 38 per cent. Our total ore tonnage dropped nearly 9 million. The price for the year averaged 28.9¢ compared with 1956's 41.6¢. But production costs continued to climb (see the chart). Obviously, what started out with all the

earmarks of a banner year turned into several months of Blue Mondays; and there is still no immediate prospect of a positive change in the weather.

The Outlook

Additional price slashes have occurred this year. From mid-1957 to early 1958 foreign copper prices slumped steadily, leaving an almost continuous gap between their level and that of our domestic producers and, therefore, forcing U. S. prices ever downward. Currently, the price ranges from 23 1/2¢ to 25¢.

The feeling of copper people regarding the present situation is well expressed by an editorial in a recent issue of Chinorama, a Chino employee publication:

"The trend in the copper market during the last month (February 1958) has been neither better nor worse than the general economic trend in the national economy. . . . There is one significant difference between the copper market and the national markets in general. In the copper market, as stocks of unsold copper pile up the price has been dropping. Many economists have pointed out that in most fields the prices have been staying up despite a decrease in demand. Copper's position in this respect may be more realistic in the long run than that of some of the other industries. In other words, copper is reacting to an over-supply by two logical developments: cutting prices and cutting production. It is hoped that, in the long run, the lower prices will give copper a better competitive position in relation to other metals and that the cut in production will finally help work off the world's stock of unsold copper and stabilize the industry.

"Although copper started its own private recession several months before some of the other industries, there is a very close relationship now between the copper market and the whole national economy. . . . we cannot expect any significant improvement in the copper situation until we have a general improvement in the national and international economy. . . .

"Along with viewing the short-term developments in the industry, we should also consider the long-term picture. Companies in the copper industry show by their recent long-term investments that they have faith in the long-term future of the copper industry. . . . Kennecott is investing several million dollars in new equipment and facilities ($6 million at Chino and Hurley) over a three-year period. These investments. . . include such items as expanding the power plant at Chino, buying new shovels at Chino and other divisions, digging the Bingham tunnel at the Utah Division and building a new electrolytic refinery near Baltimore. . .

"In analyzing the problems of copper, it is significant that deliveries to fabricators were higher in 1957 than in 1956, despite. . . the tendency (of buyers) to keep their inventories as low as possible because of falling prices. Kennecott, for example, sold 552,945 tons of copper in 1957. . . and 495,219 tons in 1956."

A later editorial in the same publication has this to say:

"Kennecott Copper Corporation. . . has faith in tomorrow. It is backing up this faith. . . by undertaking and continuing a $95,000,000 expansion program in our United States operations. This includes the $3,000,000 power plant extension which will be built at Chino starting soon. . . . Copper's extraordinary combination of desirable qualities makes it the preferred metal for many electrical, heating, plumbing and electronics uses. Technological advances in these and other fields are expected to create a far larger demand for copper in the future than at any time during the past."

Another copper expert feels that the chief danger facing producers is not one of meeting the price, but of managing to maintain operations and sell enough copper at any price to meet the competition of producers of copper substitutes and so prevent their capturing more of the copper market.

As Alvin J. Thompson, director of the New Mexico Bureau of Mines and Mineral Resources, sees the situation:

"In the United States and other parts of the world, extensive and intensive exploration programs have uncovered large and valuable copper deposits. There are many areas in New Mexico which appear favorable to the discovery of new and perhaps large deposits of copper. There is a reasonable likelihood that new discoveries will be made. All things considered, I believe that the copper production in the coming few decades will at least equal that of the recent past and could conceivably be a great deal larger."

On this happy note--apparently, first heard and recognized by Alvar Nunez Cabeza de Vaca in the resonant tones of those copper hawk-bells nearly 425 years ago--we rest the case for New Mexico copper.

Business Activity in New Mexico

	April 1958	Year Earlier April 1957	Per Cent Change April 1958 from Mar. 1958	Per Cent Change April 1958 from Apr. 1957	INDEX April 1958 (Average Month 1947-49 = 100)
Index of Business Activity (1947-49 = 100)	263.4	246.7	- 2.3	+ 6.8	263.4
*Sales of Retail Stores (1,000s)	$102,313	$103,023	0.0	- 0.7	208.0
Apparel Stores	2,940	3,240	+ 9.3	- 9.3	148.4
Automotive Dealers	26,239	29,824	- 7.7	- 12.0	196.3
Subsistence Stores	24,581	20,715	+ 23.3	+ 18.7	213.2
Furniture and Appliance Stores	3,700	3,008	+ 2.2	+ 23.0	145.5
Building Materials Dealers	9,172	8,091	+ 8.2	+ 13.4	188.3
Other Retail Stores	35,681	38,145	- 9.0	- 6.5	243.8
*Sales of Amusement Establishments (1,000s)	$ 1,736	$ 1,466	+ 53.9	+ 18.4	194.9
*Sales of Service Establishments (1,000s)	11,322	11,053	- 25.6	+ 2.4	292.8
*Sales of Contractors (1,000s)	29,110	24,922	+ 7.6	+ 16.8	426.0
*Sales of Wholesalers (1,000s)	35,796	29,662	+ 19.8	+ 20.7	177.2
*Public Utilities' and Carriers' Sales (1,000s)	14,123	11,330	- 15.4	+ 24.7	301.8
*Life Insurance Sales (1,000s)	22,632	17,503	+ 20.3	+ 29.3	645.3
*Bank Debits, 36 banks (1,000s)	$410,733	$381,319	+ 0.4	+ 7.7	252.7[a]
Bank Loans and Discounts, 36 banks (1,000s)	42,876	36,492	+ 6.7	+ 17.5	250.2[a]
Demand Deposits, 36 banks (1,000s)	306,235	296,812	+ 0.8	+ 3.2	161.7[a]
Time Deposits, 36 banks (1,000s)	105,157	93,532	+ 4.1	+ 12.4	293.6[a]
Business Failure Liabilities (1,000s)[b]	15	214	- 62.3	- 92.9	53.3
Wage Workers in Nonagricultural Establishments	212,800	204,800	+ 1.3	+ 3.9	161.6
* in Manufacturing	22,000	20,400	+ 1.9	+ 7.8	221.8
in Mining	15,300	17,600	- 0.6	- 13.1	132.8
in Transportation and Utilities	19,100	19,800	- 0.5	- 3.5	127.3
in Trade	47,300	45,200	+ 1.7	+ 4.6	159.2
in Finance, Insurance, and Real Estate	8,200	7,000	+ 1.2	+ 17.1	279.4
in Services and Miscellaneous	26,700	25,200	+ 1.5	+ 6.0	124.4
in Government	55,700	53,100	+ 0.9	+ 4.9	195.2
in Contract Construction	18,500	16,500	+ 4.5	+ 12.1	146.4
Number of Insured Unemployed	7,299	4,017	- 4.0	+ 81.7	--
Rate of Unemployment (per cent of labor force)	4.20	2.43	- 5.0	+ 72.8	270.4[c]
*Building Permits, total 15 cities (1,000s)	$ 5,508	$ 4,157	- 48.9	+ 32.5	229.5[a]
Residential	3,880	2,464	- 15.0	+ 57.5	261.6[a]
Nonresidential	1,016	1,048	- 81.7	- 3.0	155.8[a]
Other	612	645	- 8.9	- 5.1	231.2[a]
*Petroleum Production (1,000s of bbls)	7,506	7,852	- 1.2	- 4.4	197.9
Natural Gas Production (millions of cu ft)	61,148	55,275	- 13.9	- 10.6	380.2
*Electric Power Production (1,000s of kwhs)	223,077	206,245	- 2.2	+ 8.2	252.8
*Index of Total Metallics Production (1947-49 = 100)	82.7	104.3	- 1.4	- 20.7	82.7
Mine Production - Copper (1,000s of lbs)	10,340	10,964	+ 0.8	- 5.7	97.8
Mine Production - Lead (1,000s of lbs)	400	1,450	+ 7.5	- 72.4	38.5
Mine Production - Zinc (1,000s of lbs)	4,200	6,498	- 1.4	- 35.4	65.8
*Mine Production - Potash (1,000s of tons)	1,082	1,124	- 1.5	- 3.7	270.4
Index of All Farm Prices (1947-49 = 100)	107.2	93.4	+ 1.6	+ 14.8	107.2
Index of Livestock Prices	117.4	95.0	+ 2.0	+ 23.6	117.4
Index of Crop Prices	89.3	96.8	+ 0.4	- 7.7	89.3
Receipts from All Farm Marketings (1,000s)	$ 10,108	$ 11,575	- 11.9	- 12.7	65.6
Livestock and Products	8,946	9,613	- 2.2	- 6.9	96.8
Crops	1,162	1,962	- 50.2	- 40.8	18.8

	May 1958	Year Earlier May 1957	Per Cent Change May 1958 from Apr. 1958	Per Cent Change May 1958 from May 1957	INDEX May 1958 (Average Month 1947-49 = 100)
Bank Debits, 36 banks (1,000s)	$398,576	$383,442	- 3.0	+ 3.9	245.1[a]
Bank Loans and Discounts, 36 banks (1,000s)	40,246	37,162	- 6.1	+ 8.3	234.9[a]
Demand Deposits, 36 banks (1,000s)	305,732	293,098	- 0.2	+ 4.3	161.4[a]
Time Deposits, 36 banks (1,000s)	107,460	96,022	+ 2.2	+ 11.9	300.1[a]
Wage Workers in Nonagricultural Establishments	217,000	207,700	+ 2.0	+ 4.5	164.8
Number of Insured Unemployed	5,915	3,180	- 19.0	+ 86.0	--
Rate of Unemployment (per cent of labor force)	3.36	1.91	- 20.0	+ 75.9	216.5
Building Permits, total 15 cities (1,000s)	$ 10,494	$ 5,087	+ 90.5	+113.7	437.2[a]
Residential	6,459	2,488	+ 66.5	+170.8	435.5[a]
Nonresidential	3,058	1,558	+201.0	+101.3	469.0[a]
Other	977	1,040	+ 59.6	- 2.3	368.9[a]
Index of All Farm Prices (1947-49 = 100)	105.5	94.1	- 1.6	+ 12.1	105.5
Index of Livestock Prices	115.1	95.3	- 2.0	+ 20.8	115.1
Index of Crop Prices	89.3	99.2	0.0	- 10.0	89.3

*Indexes for these items are used to compute the Index of Business Activity.

[a]Although the number of reporting units changes, the indexes for these items are comparable with indexes for preceding months.

[b]The figures in this series are based on the average of three months' data.

[c]Revised

Sources:

Retail Sales data: N. M. Bureau of Revenue

Potash Production: N. M. Bureau of Revenue

Petroleum and Natural Gas Production: N. M. Oil Conservation Commission

Life Insurance Sales (New Ordinary): Life Insurance Agency Management Association

Wage Workers and Unemployment: N. M. Employment Security Commission and U. S. Dept. of Labor

Electric Power Production: Federal Power Commission

Metallics Production: U. S. Bureau of Mines

Farm Prices and Marketings: U. S. Agricultural Marketing Service

Bank data (all series), Building Permits: Bureau of Business Research

Business Failure Liabilities: Dun & Bradstreet, Inc.

Monthly Summary (Continued from Page 1)

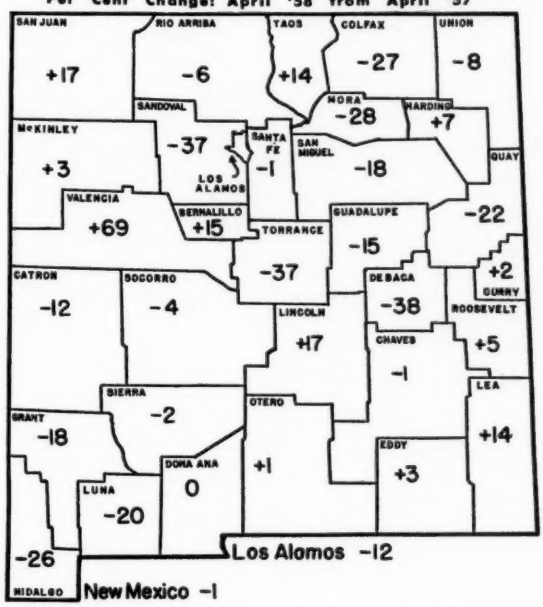
continued construction boom was seen in healthy gains in employment, building permits, and sales by contractors and building materials dealers. Livestock prices continued to rise; and, although farm marketings were off, prospects for better farm income in 1958 increased.

Despite booming conditions in construction and improvements in manufacturing and agriculture, retail sales were off slightly from April 1957, largely because of declining automotive and "other" sales. Mining remained sluggish except in natural gas and uranium.

In view of the current national business situation, the fact seemed ominous that year-to-year gains in employment in retail sales, electric power production, and the over-all Index of Business Activity have been progressively smaller in recent successive months. Apparently, business conditions here depend greatly upon national conditions, and New Mexico business cannot long surge ahead during a national business decline. Thus, the general improvement forecast by many observers augurs well for New Mexico for the rest of 1958.

RETAIL SALES: A Comparison

Per Cent Change: April '58 from April '57



Sales Activity in New Mexico Counties

April 1958

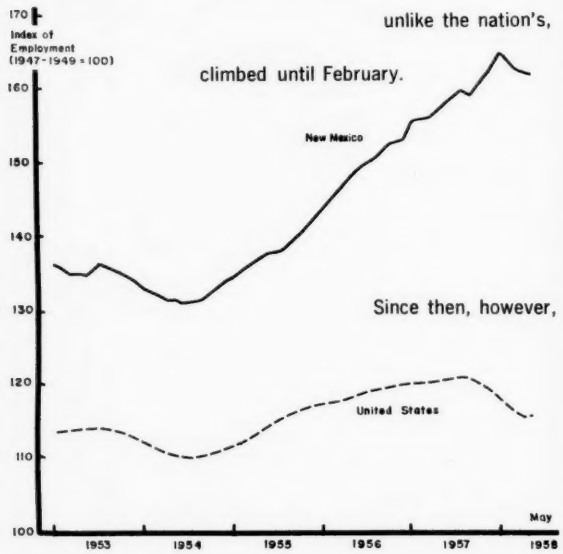
(add 1,000s)	Retail Stores							Others		
County	Apparel	Automotive	Subsistence	Furniture & Appliances	Building Material	Other	Total	Amusement Places	Service Firms	Wholesalers' Sales
Bernalillo	$1,322	$ 7,274	$ 6,946	$1,397	$4,021	$ 9,027	$ 29,987	$ 815	$ 4,380	$17,338
Catron	0	48	34	2	2	35	121	2	1	24
Chaves	186	1,607	1,407	188	643	1,462	5,493	137	881	2,120
Colfax	35	392	283	20	108	306	1,144	13	98	207
Curry	137	811	703	192	268	876	2,987	53	441	809
De Baca	0	64	57	2	14	89	226	(a)	16	25
Dona Ana	114	1,388	1,098	158	489	1,011	4,258	61	560	963
Eddy	184	1,428	1,400	232	296	1,948	5,488	53	646	1,419
Grant	29	364	499	47	70	465	1,474	15	170	345
Guadalupe	3	277	167	(a)	29	115	591	5	13	78
Harding	0	45	4	0	1	68	118	1	1	10
Hidalgo	2	194	153	1	34	137	521	3	23	115
Lea	194	2,024	1,847	275	370	6,570	11,280	100	767	1,593
Lincoln	3	158	123	5	99	219	607	9	34	100
Los Alamos	16	118	270	3	14	186	607	19	98	29
Luna	13	397	253	123	48	271	1,105	10	108	445
McKinley	63	873	840	43	214	929	2,962	39	208	1,090
Mora	2	30	14	0	10	58	114	2	2	25
Otero	77	764	831	161	295	598	2,726	41	273	285
Quay	29	508	314	17	78	270	1,216	29	88	346
Rio Arriba	22	416	263	16	34	327	1,078	2	67	53
Roosevelt	25	374	307	196	58	444	1,404	18	144	168
Sandoval	0	101	63	0	1	140	305	0	17	17
San Juan	144	2,466	1,582	205	894	2,692	7,983	87	658	1,437
San Miguel	12	265	414	21	61	324	1,097	17	96	405
Santa Fe	190	1,000	1,421	144	308	1,117	4,180	46	672	1,185
Sierra	2	187	211	7	28	192	627	33	53	53
Socorro	11	272	193	14	80	205	775	(a)	41	126
Taos	9	214	221	51	7	165	667	9	34	126
Torrance	1	260	48	14	20	114	457	(a)	11	31
Union	20	155	100	12	35	130	452	10	42	35
Valencia	63	965	1,286	72	173	667	3,226	39	169	191
Unallocated	32	800	1,229	82	370	4,524	7,037	68	510	4,603
Total	$2,940	$26,239	$24,581	$3,700	$9,172	$35,681	$102,313	$1,736	$11,322	$35,796

(a) Less than $1,000
Source: School Tax Division, N. M. Bureau of Revenue

CHART-OF-THE-MONTH

Volume II, Number 6

New Mexico's nonfarm employment,



unlike the nation's,

climbed until February.

Since then, however,

it has followed the national pattern···· and dropped sharply.

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